

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

ORDER No.89-102  
WASTE DISCHARGE REQUIREMENTS  
FOR THE

COUNTY OF ORANGE  
PRIMA DESCHECHA CANADA SANITARY LANDFILL  
ORANGE COUNTY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. The County of Orange (hereinafter the discharger) submitted a Report of Waste Discharge (RWD) dated June 16, 1971, in application of Waste Discharge Requirements for a sanitary landfill site located in the Prima Deschecha Canada area, about three miles east of the City of San Juan Capistrano. After receiving the requested additional information, the RWD was accepted on November 3, 1971.
2. On March 6, 1972, this Regional Board adopted Order No. 72-4, Waste Discharge Requirements (WDR) for Prima Deschecha Canada Sanitary Landfill. Order No. 72-4 established requirements for the disposal of nonhazardous solid waste in the landfill. Order 72-4 was subsequently amended on March 6, 1972, March 6, 1973, and on March 10, 1975 to extend the deadline to begin construction of the landfill to March 6, 1976.
3. The landfill is owned and operated by the General Services Agency, Waste Management Program, the County of Orange. The County of Orange is the principle responsible party for compliance with the state and the federal regulations for discharge of waste to land.
4. The landfill site is located at the south end of La Pata Avenue, approximately 2 1/2 miles east of the City of San Juan Capistrano. The Prima Deschecha Canada Sanitary Landfill site is located in the San Clemente Hydrologic Area (HA 1.30) of the San Juan Hydrologic Unit in Sections 3, 4, 8, 8, 9, 10, 15, 16, and 17, T8S, R7W, San Bernardino Benchmark & Meridian (SBB&M).
5. Section 2591, Article 9, Subchapter 15, Chapter 3 of California Code of Regulations (23 CCR 15), requires the Regional Board to fully review and revise the classification and the waste discharge requirements of existing landfills to implement the provisions of Subchapter 15.

6. The Regional Board staff has determined that in order to achieve full compliance with Subchapter 15, it is necessary for the discharger to:
- a. Provide the waste management units (hereinafter WMUs) within the landfill site that have received or are presently receiving sewage sludge with a leachate collection and removal system in accordance with Section 2543;
  - b. Upgrade the present detection monitoring program for groundwater and add vadose zone monitoring program to the WMUs at the landfill site in accordance with Article 5; and

The Regional Board staff requested by a letter dated August 29, 1989, submittal of a proposed time schedule to bring the subject landfill site into compliance.

7. On September 29, 1987, the discharger submitted a report entitled "Solid Waste Assessment Test (SWAT), Prima Deschecha Sanitary Landfill" (hereinafter the SWAT proposal) to meet the requirements of Section 13273 of the California Water Code.
8. The SWAT proposal indicated that the landfill site encompasses approximately 1,500 acres of rangeland topography consisting of rounded ridges and drainage channels. The area covered by the landfill is shown in Attachment No. 1 to this Order. Two WMUs within the landfill site are currently used for waste disposal. The first WMU covers approximately 18 acres of the southwest corner of the NE 1/4, Section 9, T8S, R7W, SBB & M and is located east of the main gate to the landfill site. In a letter dated September 20, 1989, the discharger indicated that this area did not receive wastes on a regular basis during the last several years and is reserved for emergency waste disposal. The WMU is maintained (the cover, drainage network, slope, etc.) by the landfill crew. To date, no information regarding the adequacy of the interim cover has been submitted to the Regional Board staff. The second WMU occupies approximately 85 acres of the eastern half of the SE 1/4, Section 8, T8S, R7W of SBB & M and is located approximately 5000 ft southwest of the main gate. In a letter dated September 20, 1989, the discharger indicated that the second WMU is the only active WMU at the present time within the landfill site is receiving waste on routine basis under normal conditions.

9. The SWAT proposal indicated that the landfill site is underlain by tertiary marine sedimentary strata ranging in age from early to late Miocene. The sedimentary strata are capped by Quaternary deposits. The major geologic formations at the landfill comprise: 1) the Capistrano Formation, a marine siltstone, mudstone and clayey shale of low permeability; and 2) the Monterey Formation, a marine diatomaceous shale, silty shale, silicious shale and calcareous shale. The estimated combined thickness of both formations is 1000 feet below the waste materials.
10. The SWAT proposal indicated that landslides cover approximately 50% of the site and are locally related to faulting. The discharger indicated that although several landslides have occurred at the subject landfill and the surrounding areas, mitigation measures such as land grading, surface drainage control, surface compaction, and general ground maintenance can be implemented at the landfill site to minimize landslides.
11. The SWAT proposal indicated that the Cristianitos Fault is an "inactive fault" and is located just outside the eastern boundary of the landfill. The Forster Canyon Fault is classified as "potentially active"; i.e., has moved sometime during the last 70,000 years.
12. The SWAT proposal indicated that a thick (approximately 1000 feet) section of the Capistrano/Monterey siltstone formations underlies the landfill site. The Capistrano and Monterey formations are generally considered aquitards due to their fine grained clayey lithology. There are no producing water wells within a two mile radius of the landfill site.
13. The San Diego Regional Ground Water Studies, Phase III report, classified groundwater reserves in this region into two categories:
- a. The shallow aquifer (of depth ranging from 10 to 50 feet) exists within the erosional channels incised into the Capistrano siltstone formation. Surface water runoff and mineral springs in the area intermittently recharge the shallow aquifer. It has been documented that, two cattle-water-wells in the shallow aquifer were destroyed because of the low yield and the high ions concentration.
- b. The deep aquifer (of known beneficial uses in the

region) is primarily found in the San Onofre Breccia formation below the Capistrano and Monterey siltstone formations at a depth of approximately 1000 feet. The San Onofre Breccia formation consists of a marine hard sandy breccia, conglomeratic sandstone and sandstone.

14. At the present time, the discharger is monitoring the shallow aquifer from four (15-foot) wells bordering the two WMUs and from an upgradient mineral spring as shown in Attachment #2 to this Order.
15. Monitoring data of the shallow aquifer have indicated marginal water quality of a brackish nature. During the period from 1978 until 1989, the total dissolved solids in the monitoring Well C averaged 19,600 mg/L.
16. A letter dated March 30, 1983 from Aliso Water Management Agency and the South East Regional Reclamation Authority have viewed "the continued disposal of treated wastewater sludge at the Prima Deschecha Landfill as an emergency situation". In a letter to MacDonald-Stephens, Engineers, Inc. and the County of Orange dated July 27, 1984, the Regional Board approved the disposal of sewage sludge pending the construction of a leachate collection and removal system within five years following reclassification of the landfill.
17. The runoff water from the landfill site is diverted into two desiltation basins before the discharge to an unnamed gulch, a tributary to the Camino Las Ramblas Creek.
18. Based on the information in the SWAT proposal, the discharger correspondence letters, and the site investigation/verification by the Regional Board staff, the entire landfill site complies with the requirements stipulated in Article 4, Section 2533, 23 CCR 15 for the reclassification as Class III .
19. By a letter dated September 20, 1989, the discharger responded to the Regional Board staff's request noted in finding No.6 by submitting the following information:
  - a. A proposed plan to construct a leachate collection and removal system at the WMUs within 19 months.
  - b. A proposed plan to upgrade the present detection monitoring program with an additional groundwater well and a vadose zone monitoring network; no date was given for completion.

- c. A brief description of the site maintenance, the present detection monitoring program, and the routine inspection performed by the local and the state agencies of the two WMUs at the landfill site.
20. On February 8, 1988, the Regional Board adopted Resolution No. 88-06 providing criteria for the disposal of shredder waste to the landfill. Resolution 88-06 states that shredder waste which is not determined hazardous by DHS is suitable for disposal at Class III waste management units as designated by this Regional Board without special segregation of management.
21. The Comprehensive Water Quality Control Plan Report, San Diego Basin (9) (the Basin Plan), adopted by this Regional Board on March 17, 1975; approved by the State Board on March 20, 1975; and updated by this Regional Board on February 27, 1978; March 23, 1981; January 24 and October 3, 1983; August 27, 1984; December 16, 1985; and March 25, 1986. The updates were subsequently approved by the State Board.
22. The Basin Plan established the following beneficial uses for the waters of the San Clemente Hydrologic Area:
- Surface waters
- X      a. Agricultural supply  
      b. Non contact water recreation  
      c. Wildlife habitat  
      d. Preservation of rare and endangered species
- Ground waters
- a. Municipal and Domestic Supply  
      b. Agricultural
23. The Basin Plan established the following ground water objectives which apply to all groundwater of the basin.

Tastes and Odors

Groundwater shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

Bacteria

In groundwater used for domestic or municipal supply (MUN) the median concentration of coliform organisms over any seven-day period shall be less than 2.2/100 milliliters (ml).

#### Chemical Constituents

Groundwater designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Administrative Code Title 17, Chapter 5, Subchapter 1, Group 1, Article 4, Section 7019, Tables 2, 3, and 4. To the extent of any conflict between these limits and those specified in Table 4-7, the more stringent shall apply at all times.

Groundwater designated for use as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use.

#### Radioactivity

Groundwater designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in California Administrative Code Title 17, Chapter 5, Subchapter 1, Group 1, Article 4, Section 7019, Tables 5.

24. The Basin Plan established the following water quality objectives for water of the San Clemente Hydrologic Area:

Constituent	Surface Water	Groundwater
Total Dissolved Solids	500 mg/L	500 mg/L
Chloride	250 mg/L	250 mg/L
Percent Sodium	60 %	60 %
Sulfate	250 mg/L	250 mg/L
Nitrate (as NO <sub>3</sub> )	N/A	10 mg/L
Nitrogen & Phosphorus	*	N/A
Iron	0.3 mg/L	0.3 mg/L
Manganese	0.05 mg/L	0.05 mg/L
Methylene Blue Active Substances	0.5 mg/L	0.5 mg/L
Boron	0.5 mg/L	0.5 mg/L
Odor	None	None
Turbidity	20 NTU	5 NTU
Color	20 Units	15 Units
Fluoride	1.0 mg/L	1.0 mg/L

Note: The above concentration not to be exceeded more than 10% of the time.

- \* Concentrations of nitrogen and phosphorus, by themselves or in combinations with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total Phosphorus (P) concentrations shall not exceed 0.05 mg/L in any stream at the point where it enters any standing body of water, nor 0.025 mg/L in any standing body of water. A desired goal in order to prevent plant nuisances in streams and other flowing waters appears to be 0.1 mg/L total P. These values are not to be exceeded more than 10 percent of the time unless studies of the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 shall be used.
25. The Basin Plan contains the following prohibitions which are applicable to the site:

"The dumping or deposition of oil, garbage, trash or other solid municipal, industrial or agricultural waste directly into inland waters or watercourses or adjacent to watercourses in any manner which may permit its being washed into the watercourse is prohibited."

"Dumping or deposition of oil, garbage, trash or other solid municipal, industrial or agricultural waste into natural or excavated sites below historic water levels or deposition of soluble industrial wastes at any site is prohibited, unless such site has been specifically approved by the Regional Board for that purpose."

"Land grading and similar operations causing soil disturbance which do not contain provisions to minimize soil erosion and limit suspended matter in are runoff are prohibited."

26. Because the shallow aquifer is of limited yield, poor quality, and has nonbeneficial use, and the deep aquifer, the San Onofre Breccia, is protected by approximately 1000 ft siltstone veneer, the Regional Board staff finds that the discharge of waste at the landfill if conducted in accordance with this Order, will not adversely affect the groundwater quality or the established beneficial uses of the San Clemente Hydrologic Area.
27. The Regional Board, in establishing the requirements contained herein, considered factors including, but not limited to the following:
  - a. Past, present, and probable future beneficial uses of water;
  - b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;
  - c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;
  - d. Economic considerations;
  - e. The need for developing housing within the region;
  - f. Beneficial uses to be protected and water quality objectives reasonably required for that purpose;
  - g. Other waste discharges; and
  - h. The need to prevent nuisance.
28. This facility is an existing facility and as such is exempt

from the provisions of the California Environmental Quality Act in accordance with Title 14, California Administrative Code, Chapter 37, Article 19, Section 15301.

29. The Regional Board has considered all water resource related environmental factors associated with the existing discharge.
30. The Regional Board has notified the discharger and all known interested parties of the intent to update waste discharge requirements for the existing discharge.
31. The Regional Board in a public meeting heard and considered all comments pertaining to the existing discharge.

IT IS HEREBY ORDERED, the County of Orange shall comply with the following Waste Discharge Requirements:

A. PROHIBITIONS

1. Discharges of wastes to lands which have not been specifically described to the Regional Board and for which valid waste discharge requirements are not in force are prohibited.
2. The discharge of waste shall not cause the following:
  - a. Occurrence of coliform or pathogenic organisms in waters pumped from the basin;
  - b. Presence of objectionable tastes and odors in waters pumped from the basin;
  - c. Waters pumped from the basin to foam;
  - d. Presence of toxic materials in waters pumped from the basin;
  - e. Changes in the pH value of the water pumped from the basin outside the range of 6.0 to 9.0 units;
  - f. Violation of the objectives for the ground or surface waters of the San Clemente Hydrologic Area, as established in the Basin Plan; and
  - g. Odors, vectors, and other nuisances of waste origin beyond the limits of the landfill site.
3. Disposal of hazardous waste is prohibited at the landfill site.
4. Disposal of designated waste at the landfill is prohibited except as provided for by Subchapter 15, Section 2520(a)(1). Subchapter 15, Section 2520(a)(1) indicates that the waste

classification specified in Subchapter 15, Article 2 shall determine where the waste may be discharged unless the discharger establishes, to the satisfaction of the Regional Board, that a particular waste constituent or combination of constituents presents a lower risk of water quality degradation than indicated by classification according to Subchapter 15, Article 2 criteria.

5. Disposal of liquids or semi-solid waste at the landfill is prohibited except as provided for by Subchapter 15, Section 2520(d)(3). Subchapter 15, Section 2520(d)(3) indicates that liquids or semi-solid waste (waste containing less than 50 percent solids), other than dewatered sewage or water treatment sludge, shall not be discharged to a Class III landfill. Exemptions may be granted if the discharger can demonstrate that such discharge will not exceed the moisture-holding capacity of the landfill, either initially or as a result of waste management operations, compaction, or settlement.
6. Disposal of sewage or water treatment sludge at the landfill is prohibited except as provided for by Subchapter 15, Section 2520(d)(3) and 2523(c). Subchapter 15, Section 2523(c) indicates that dewatered sewage or water treatment sludge may be discharged at a Class III landfill under the following conditions, unless DHS determines that the waste must be managed as hazardous waste:
  - a. The landfill is equipped with a leachate collection and removal system;
  - b. The sludge contains at least 20 percent solids if primary sludge, or at least 15 percent solids if secondary sludge, mixtures of primary and secondary sludge, or water treatment sludge; and
  - c. A minimum solids-to-liquid ratio of 5:1 by weight shall be maintained to ensure proper moisture holding capacity of waste material to prevent movement of leachate. Any foreign solid added to the sludge must be nondecomposable and of specific retention equal to or greater than the sludge substance. Nonabsorbent solids such as glass, metals, etc. will not be included in the solid-to-liquid ratio of 5:1 estimation.
7. The discharge of solid, liquid waste, and leachate to surface waters or surface water drainage courses is prohibited.

- ✓ 8. The discharge of waste to ponded water from any source is prohibited.
9. The discharge of wastes which have potential to reduce or impair the integrity of containment structure or which, if commingled with other wastes in the WMU, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:
- a. Require a higher level of containment than provided by the WMU.
  - b. Constitute "restricted hazardous wastes"; or
  - c. Impair the integrity of containment structure is prohibited.

**B. DISCHARGE SPECIFICATIONS**

- ✓ 1. Nonhazardous waste and inert waste as described by Subchapter 15, Sections 2523 and 2524 may be disposed of at the Prima Deschecha Sanitary Landfill.
2. Shredder waste which is not determined hazardous by the Department of Health Services may be disposed of at the Prima Deschecha Sanitary Landfill without special segregation or management.
- X 3. The concentration of indicator parameters as waste constituents in waters passing through the Points of Compliance shall not exceed the "Water Quality Protection Standards" established and enumerated in Monitoring and reporting Program No. 89-102, which is attached to and made part of this Order.
- X 4. All drinking water wells located within the WMUs shall be sealed to the satisfaction of the Orange County Health Department (and any other responsible agency) prior to discharging waste materials within 500 feet of any such wells.
- X 5. During the months when precipitation can be expected, the disposal activity shall be confined to the smallest area possible based upon the anticipated quantity of wastes and operational procedures.
- X 6. The WMUs shall be adequately protected from any washout, and erosion of waste materials. Adequate protection is defined as protection from at least a 100-year flood.

7. The discharger is responsible for accurate characterization of wastes, including determinations of whether or not wastes will be compatible with containment features and other wastes at the landfill in order to comply with Subchapter 15, Section 2520(b), and whether or not wastes are required to be managed as hazardous wastes under Section 66300 of the California Administrative Code, Title 22.
8. The discharger shall implement a periodic load-checking program to ensure that hazardous materials are not discharged at the landfill. The program shall be approved by the State Department of Health Services and the Executive Officer.
9. The discharger shall comply with all applicable requirements of Subchapter 15, Article 3 at the landfill. Article 3 establishes siting, design, construction, operation, and maintenance standards. Sections 2530, 2533, and Table 3.1 are applicable in whole or in part to the landfill.
10. The discharger shall comply with all applicable requirements of Subchapter 15, Article 4 at the landfill. Article 4 establishes construction standards for waste management units.
11. Materials used to construct leachate collection and removal systems (LCRSSs) shall have appropriate physical and chemical properties to ensure the required transmission of leachate over the life of the WMUs and the post-closure maintenance period.
12. LCRSSs shall be designed, constructed, and maintained to collect twice the anticipated daily volume of leachate generated by the sludge disposal ponds and to prevent the buildup of hydraulic head on the underlying liner.
13. All containment structures shall be designed and constructed under the direct supervision of a California registered engineer or a certified engineering geologist and shall be certified by that individual as meeting the perspective standards and performance goals of Subchapter 15 prior to waste discharge.
14. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through waste.
15. Annually, prior to the anticipated rainy season but not

X later than October 31, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the facility and to prevent surface drainage from contacting or percolating through wastes. The discharger shall submit an annual report to the Regional Board by January 31 describing measures taken to comply with this specifications.

16. The closure of each WMU shall be under the direct supervision of a California civil engineer or certified engineering geologist.
17. Closed WMUs shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.
18. At closure, each WMU shall receive a final cover which is designed and constructed to function with minimum maintenance and consists, at a minimum, of two-foot thick foundation layer which may contain waste materials, overlain by a one-foot thick clay liner, and finally by a one-foot thick vegetation soil layer, or an engineered equivalent final cover approved by the Regional Board pursuant to Subsections 2510(b) and (c) of Subchapter 15.
19. Vegetation shall be planted and maintained over each closed WMU. Vegetation shall be selected to required a minimum of irrigation and maintenance and shall have a rooting depth not in excess of vegetative layer thickness.
20. Closed WMUs shall be graded to at least a three-percent (3%) grade and maintained to prevent ponding.
21. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to minimize such erosion.

#### C. PROVISIONS

1. Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code.
2. The discharger must comply with all conditions of this Order. Any noncompliance with this Order constitutes a

violation of the California Water Code and is grounds for (a) enforcement action; (b) termination, revocation and re-issuance, or modification of this Order.

3. In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order.
4. The discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
5. The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate laboratory and process controls including appropriate quality assurance procedures.
6. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
7. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
  - a. Violation of any terms or conditions of this Order;
  - b. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts; or
  - c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge. The filing of a request by the discharger for the modification, revocation and re-issuance, or termination of this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
8. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the discharger from liability under federal, state, or local laws, nor

create a vested right for the discharger to continue the regulated activity.

9. The discharger shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law to:
  - a. Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
  - d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.
10. A copy of this Order shall be maintained at the landfill and shall be available to operating personnel at all times.
11. This order becomes effective on the date of adoption by the Regional Board. This Order supersedes Order No. 72-4. Order No. 72-4 is hereby rescinded.
12. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
13. Alternatives and exceptions to and exemptions and waivers from requirements of Subchapter 15 shall be subject to the approval of the Executive Officer and shall be authorized only as provided for by Subchapter 15. Implemented alternatives to Subchapter 15 requirements shall meet the conditions for approval of such alternatives established in Subchapter 15 as long as the wastes pose a threat to water quality.

14. The discharger shall comply with all applicable requirements of Subchapter 15, Article 8 for partial and final closure and post-closure maintenance of the landfill. Article 8 establishes closure and post-closure maintenance requirements.
15. The discharger shall complete the tasks outlined in this WDR and the attached Monitoring and Reporting Program No. 89-102 in accordance with the following time schedule:

Task	Date of Compliance	Report of Compliance
1. To achieve compliance with Prohibition No. A.6, complete installation of the Leachate Collection & Removal System.	12/31/1991	
a. First Progress Report		06/01/1990
b. Second Progress Report		12/01/1990
c. Third Progress Report		06/01/1991
d. Final Report		01/15/1991
2. Complete the Update of the Monitoring Network	03/30/1990	04/15/1990
3. Submit report on the interim cover condition and characteristics and the remaining capacity of the emergency/disposal area.	03/30/1990	04/15/1990

The discharger shall submit to the Regional Board, on or before each compliance report date, a report of compliance or noncompliance with the specific task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date of compliance with the time schedule.

16. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.

#### D. REPORTING REQUIREMENTS

1. In accordance with Section 2210 of California Water Code, the discharger shall file a new RWD at least 120 days prior to the following:
  - a. Significant change in the disposal method;
  - b. Change in the disposal location from that described in the findings of this order or the SWAT proposal;
  - c. Other circumstances which result in a material change in character, amount, or location of the waste discharge; and
  - d. Any planned change in the regulated facility or activity which may result in noncompliance with this order.

The Regional Board may waive the submittal of the information deemed unnecessary.

2. In accordance with the Regional Board Resolution No. 88-06, the discharger shall submit a report of waste discharge and obtain revised waste discharge requirements for the disposal of shredder wastes which is determined hazardous by the State Department of Health and Services (DHS), but is given a variance for the purpose of disposal by DHS.
3. The discharger shall furnish to the Executive Officer of this Regional Board, within a reasonable time, any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Executive Officer upon request, copies of records required to be kept by this Order.
4. The discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage between the current discharger and a new discharger. This agreement shall include an acknowledgement that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on.
5. The discharger shall comply with the attached Monitoring and Reporting Program No. 89-102.
6. Where the discharger becomes aware that it failed to submit any relevant facts in the technical report or submitted incorrect information in the technical report or in any report to the Regional Board, it shall promptly submit such facts or information.

7. The discharger shall report any noncompliance which may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, or prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
8. The discharger shall conduct such monitoring as may be necessary in order to provide information requested by the Executive Officer.
9. The discharger shall maintain legible records of the amount (volume or weight) and type of each waste discharged at the landfill and the manner and location of discharge.
10. The discharger shall notify the Regional Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.
11. All applications, reports, or information submitted to the Executive Officer of this Regional Board shall be signed and certified as follows:
  - a. The RWD shall be signed as follows:
    1. For a corporation - by a principal executive officer of at least the level of vice-president;
    2. For a partnership or sole proprietorship - by a general partner or the proprietor, respectively;
    3. For a municipality, state, federal or other public agency - by either a principal executive officer or ranking elected official; and
    4. For a military installation - by the base commander or the person with overall

responsibility for environmental matters in that branch of the military.

- b. All other reports required by this Order and other information required by the Executive Officer shall be signed by a person designated in paragraph (a) of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:
  - 1. The authorization is made in writing by a person described in paragraph (a) of this provision;
  - 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity; and
  - 3. The written authorization is submitted to the Executive Officer.
- c. Any person signing a document required by this Order and other information required by the Executive Officer shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."
- 12. The discharger shall submit reports required under this Order and other information requested by the Executive Officer, to:

Executive Officer  
California Regional Water Quality Control Board  
San Diego Region  
9771 Clairemont Mesa Blvd., Suite B  
San Diego, California 92124-1331

#### NOTIFICATIONS

- 1. These requirements have not been officially reviewed by the United States Environmental Protection Agency and are not issued pursuant to Section 402 of the Clean Water Act.

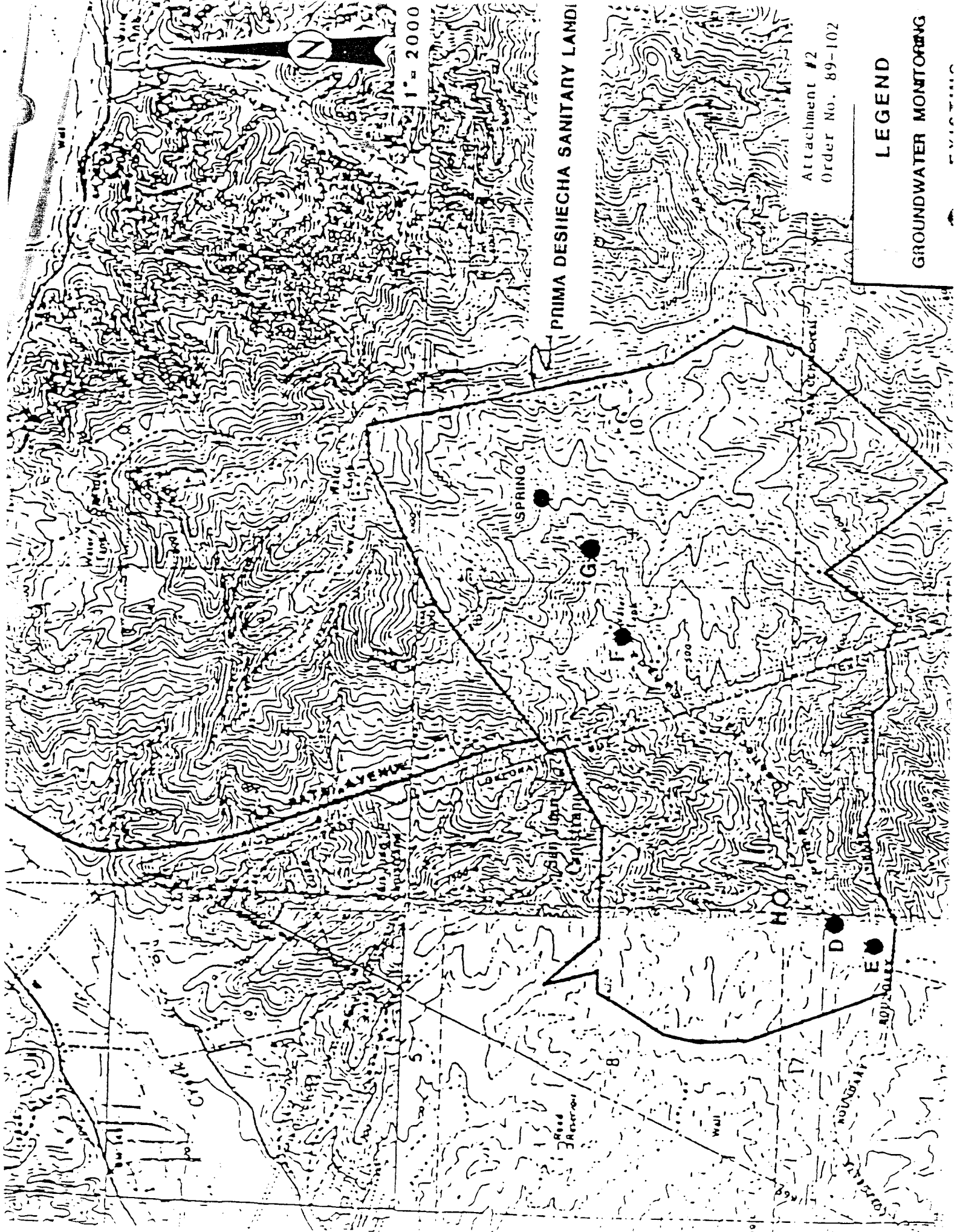
2. The California Water Code provides that any person who intentionally or negligently violates any waste discharge requirements issued, reissued, or amended by this Regional Board is subject to administrative civil liability of up to ten dollars per gallon of waste discharged, or, if no discharge occurs, up to one thousand dollars per day of violation. The Superior Court may impose civil liability of up to ten thousand dollars per day of violation or, if a cleanup and abatement order has been issued, up to fifteen thousand dollars per day of violation.
3. The California Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or falsifying any information provided in the monitoring reports is guilty of a misdemeanor and may be subject to administrative civil liability of up to one thousand dollars per day of violation.
4. Definitions of terms used in this Order shall be as set forth in Subchapter 15.
5. Operation of the landfill may be subject to regulations of the California waste Management Board.
6. This Order becomes effective on the date of adoption by the Regional Board.

I, Ladin H. Delaney, Executive Officer, do hereby certify the forgoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on December 18, 1989.

*Ladin H. Delaney*

Ladin H. Delaney  
Executive Officer

AMM:amm



PIMA DESHECHA SANITARY LANDFILL

Attachment #2  
Order No. 89-102

# LEGEND

GROUNDWATER MONITORING



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO

MONITORING AND REPORTING PROGRAM No. 89-102

COUNTY OF ORANGE  
PRIMA DESCHECHA SANITARY LANDFILL  
ORANGE COUNTY

GENERAL MONITORING REQUIREMENTS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this Order and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification and the approval of the Executive Officer.
2. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act" as amended, unless other test procedures have been specified in this Order.
3. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved the Executive Officer. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.
4. If the discharger monitors any pollutants more frequently than required by this Order, using test procedures approved under 40 CFR, Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
5. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

6. Monitoring results must be reported on discharge monitoring report forms approved by the Executive Officer.
7. Records of monitoring information shall include:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The individual(s) who performed the sampling or measurements;
  - c. The date(s) analyses were performed;
  - d. The individual(s) who performed the analyses;
  - e. The analytical techniques or method used; and
  - f. The results of such analyses.
8. The discharger shall report all instances of noncompliance as required under Reporting Requirement D.5 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting requirements D. 8.
9. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Executive Officer or in this Order.
10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.
11. All field and laboratory works shall be in accordance with the quality assurance and control plan submitted by the discharger on September 20, 1989.
12. A composite sample is defined as a combination of at least 8 sample aliquot of at least 100 milliliters, collected at periodic intervals during the operating hours of the landfill. For volatile pollutants, aliquot must be combined in the laboratory immediately before analysis.
13. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.
14. In the annual report, the discharger shall provide a statistical analysis of the results in accordance with

Appendix II of 23 CCR 15 or equivalent statistical method. The discharger shall identify whether a significant difference was found above the cumulative background values for each parameter.

15. A letter of transmittal shall accompany each submitted monitoring report. The letter should discuss the essential points in each monitoring report. Such letter shall include a discussion of any significant findings and violation(s) of requirements found during the monitoring period and actions taken or planned for correcting the violation(s). If the discharger has previously submitted a detailed time schedule for correcting violation(s) a reference to the correspondence transmitting such schedule will suffice. If no violation(s) have occurred in the last monitoring period, it shall be stated in the transmittal letter. Monitoring reports and the transmittal letter shall be signed by a principal executive officer at the level of vice president or his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the discharger's knowledge the report is true, complete, and correct.

A. WASTE MONITORING PROGRAM

1. The discharger shall maintain all wastes discharged to the landfill in accordance with the approved load-checking program implemented to ensure hazardous materials are not discharged to the landfill. Annually, the discharger shall submit an assessment that documents the effectiveness of the periodic load-checking program and describes any new control measures being implemented to improve the program.
2. The discharger shall perform quarterly inspections of the Waste management units (WMU) at the landfill site and report the results quarterly. The report shall contain information of the WMU conditions and a discussion of any significant findings with regard to:
- a. General site condition;
  - b. Surface cover and slope;
  - c. Drainage facilities;
  - d. Groundwater and vadose zone monitoring networks;
  - e. Methane gas control system;
  - f. Observation of seepage from the WMUs;
  - g. Liquid condensate disposal facilities; and
  - h. Maintenance activities at the site.

3. Annually, the discharger shall submit a report describing the quantity of nonhazardous solid wastes, dewatered sewage sludge or water treatment sludge, shredder wastes, nonhazardous incinerator wastes, and inert wastes discharged at each WMU.

B. SURFACE WATER RUNOFF MONITORING PROGRAM

1. Each year, a grab sample of the first surface water runoff accumulated in the desilting/debris basin shall be analyzed for the following constituents:

Constituent	Units
<u>1. Biological Analysis:</u>	
Fecal Coliform	MPN/100 ml
Total Coliform	MPN/100 ml

2. Partial Mineral Analysis:

pH	pH Units
Specific Conductance	umhos/cm
Total Dissolved Solids	mg/L
Settleable Solids	mg/L
Calcium	mg/L
Magnesium	mg/L
Sodium	mg/L
Potassium	mg/L
Bicarbonate	mg/L
Carbonate	mg/L
Chloride	mg/L
Sulfate	mg/L
Nitrate as nitrogen	mg/L
Total Phosphate	mg/L

3. Organic Analysis

Purgeable Organics	ug/L
Base/Neutrals & Acids	ug/L

Note: mg/L = milligrams per liter & ug/L = micrograms per liter

C. GROUNDWATER AND VADOSE ZONE MONITORING PROGRAM

1. The discharger shall establish and maintain groundwater wells and vadose zone monitoring devices at the landfill site to be used as part of a background water quality monitoring program.
2. New monitoring wells shall be designed and certified as adequate by a California registered geologist or a registered civil engineer, pursuant to Subchapter 15, Sections 2555 and 2559.
3. All monitoring wells shall be constructed by a licenced water well contractor in a manner that maintains the integrity of the drill hole and prevents cross-contamination of saturated zones. The casing shall be a minimum of two inches in diameter. The annular space shall be packed with appropriate filter material that is sized to match the formation. The annular space above the screened depth shall be appropriately sealed to prevent contamination of samples and groundwater from surface pollution. The well shall be adequately developed to prevent the movement of sediment into the casing and to produce the highest yield possible from the formation. Each well shall be marked permanently so as to readily identify it and shall have a reference point tied into mean sea level elevation by a licensed surveyor. All monitoring wells shall be logged during drilling under the direct supervision of a California registered geologist. All monitoring well logs submitted to the Board shall be signed by the registered geologist. All monitoring well logs shall be filed with the Department of Water Resources (DWR) on forms provided by DWR, pursuant to Water Code Section 13751. Soil shall be described according to the Unified Soil Classification System. Copies of the logs and as-built specifications of the wells shall be submitted to the Regional Board.
4. Prior to pumping monitoring wells for sampling, the static water level shall be measured in each well.
5. Prior to sampling monitoring wells, the presence of a floating immiscible layer in all wells shall be determined at the beginning of each sampling event. This shall be done prior to any other activity which may disturb the surface of the water in a well, e.g. water level measurements. If an immiscible layer is found, the Regional Board shall be notified within 24 hours.

6. Prior to sampling monitoring wells, the water standing in the casing shall be pumped using a step-down purging method until the water chemistry has stabilized with respect to pH and specific conductance. Water chemistry can be considered stable when in-line specific conductance and pH readings are within  $\pm 10\%$  and  $\pm 0.1$  pH units respectively over 2 successive well volumes. Samples shall be obtained that are representative of the fresh aquifer formation water.
7. Field logs used for monitoring well sampling shall be included in the monitoring reports. The information contained in these logs shall include: the name of the person actually taking the sample, well number, date, time of sampling, method of sampling (if a pump is used, include the type of pump used and pump placement), sampling procedure, number of field blanks, presence of travel blanks, well number where duplicate samples are taken, type of sample containers and preservatives, any observations of the quality of the sample water (color, odors, immiscible phases, etc.), chain of custody record, and any problems encountered during sampling.
8. Field logs used during well purging shall be included in the monitoring reports. The information contained in these logs shall include: the method of monitoring the field parameters, calibration of the field equipment, method of purging (if a pump is used, include pump placement and pumping rate), date each well was purged, well recovery time, method of disposal of the purged water, an estimate of volume of water purged from each well, the results of all field analyses, well number, date, depth to groundwater, method of measuring the water level, and field personnel signatures.
9. After purging, if 80% recovery of the initial water level exceeds three hours, a sample should be collected as soon as the water level is sufficient to recover a representative sample.
10. The discharger shall submit a compliance evaluation summary of the groundwater and vadose zone chemical data obtained for the quarter. The summary shall contain a table which includes the following information:
  - a. Monitoring parameters;
  - b. Detection limit of monitoring equipment;
  - c. Average concentration for each parameter over the previous four quarterly monitoring events;
  - e. Measured concentrations found in the current sampling

- event; and
- f. Whether a significant difference was found for each parameter.

The measured concentrations shall be reported with a "<" symbol only if the value listed after the symbol is the detection limit achieved by the laboratory.

11. The discharger shall provide a graphical description of the direction of groundwater flow in and around the disposal site, based upon water level elevations and pertinent visual observations. The time of day at which each well's water level is determined shall be included with the graphical description of the direction of groundwater flow.
12. The discharger shall provide a summary of the results of the background water quality monitoring program at the end of one year of monitoring. The analysis shall account for measurement errors in sampling and analysis, and account for seasonal fluctuations in background water quality.
13. For each parameter specified the discharger shall calculate the arithmetic mean and variance of the samples obtained during each year of the background monitoring program.
14. The discharger shall submit a proposal for a detection monitoring program by March 30, 1990. The detection monitoring program shall be based on the results of the background water quality monitoring program and in accordance with monitoring requirements of Subchapter 15, Article 5.
15. The discharger shall continue the background water quality monitoring program until the detection monitoring program is approved by the Executive Officer and implemented at the landfill site.
16. Until the detection monitoring program is approve, samples from the following groundwater monitoring wells shall be collected and analyzed for the following parameters at the frequency shown and reported at the interval shown.

Spring .....	8S/7W - 10ES01S
Well D .....	8S/7W - 17A01S
Well E .....	8S/7W - 17A02S
Well F .....	8S/7W - 09J01S
Well G .....	8S/7W - 10E01S
Well H .....	8S/7W - 09N01S

Constituent	Units	Sampling Frequency	Reporting Frequency
✓ Chemical Oxygen Demand	mg/L	Quarterly	Quarterly
Biochemical Oxygen Demand (BOD <sub>5</sub> @ 20° C)	mg/L	Quarterly	Quarterly
✓ pH	pH Units	Quarterly	Quarterly
✓ Specific Conductance	umhos/cm	Quarterly	Quarterly
✓ Total Dissolved Solids	mg/L	Quarterly	Quarterly
✓ Chloride	mg/L	Quarterly	Quarterly
✓ Sulfates	mg/L	Quarterly	Quarterly
✓ Nitrate as nitrogen	mg/L	Quarterly	Quarterly
✓ Total Phosphate	mg/L	Quarterly	Quarterly
✓ Alkalinity (as a CaCO <sub>3</sub> )	mg/L	Quarterly	Quarterly
✓ Hardness (as CaCO <sub>3</sub> )	mg/L	Quarterly	Quarterly
601/602 Purgeable Organics	ug/L	Quarterly	Quarterly
625 ✓ Base/Neutrals and Acids	ug/L	Quarterly	Quarterly
✓ Lead	ug/L	Quarterly	Quarterly
✓ Chromium	ug/L	Quarterly	Quarterly
✓ Cadmium	ug/L	Quarterly	Quarterly
✓ Nickel	ug/L	Quarterly	Quarterly
✓ Copper	ug/L	Quarterly	Quarterly
✓ Mercury	ug/L	Quarterly	Quarterly
✓ Arsenic	ug/L	Quarterly	Quarterly
✓ Silver	ug/L	Quarterly	Quarterly
✓ Zinc	ug/L	Quarterly	Quarterly
✓ Barium	ug/L	Quarterly	Quarterly
✓ Beryllium	ug/L	Quarterly	Quarterly
✓ Calcium	ug/L	Quarterly	Quarterly
✓ Cobalt	ug/L	Quarterly	Quarterly
✓ Iron	ug/L	Quarterly	Quarterly
✓ Potassium	ug/L	Quarterly	Quarterly
✓ Manganese	ug/L	Quarterly	Quarterly
✓ Molybdenum	ug/L	Quarterly	Quarterly
✓ Sodium	ug/L	Quarterly	Quarterly
✓ Selenium	ug/L	Quarterly	Quarterly
✓ Thallium	ug/L	Quarterly	Quarterly
✓ Vanadium	ug/L	Quarterly	Quarterly

Note: mg/L = milligrams per liter  
 ug/L = micrograms per liter

D. Water Quality Protection Standards

Water quality protection standards shall be established by the Regional Board executive officer based upon the results of the water quality assessment being conducted by the discharger in accordance with Water Code Section 13273 (b) (1).

E. REPORTING SCHEDULE:

The monitoring reports shall be submitted to the Executive Officer in accordance with the following schedule:

<u>Reporting Frequency</u>	<u>Monitoring Period</u>	<u>Report Due Date</u>
Quarterly	January - March	April 30
	April - June	July 30
	July - September	October 30
	October - December	January 30

Ordered by



Ladin H. Delaney  
Executive Officer  
December 18, 1989



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
-3- SAN DIEGO REGION

TECHNICAL CHANGE ORDER No. 1  
TO  
MONITORING AND REPORTING PROGRAM No. 89-102  
PRIMA DESCHECHA SANITARY LANDFILL  
ORANGE COUNTY

This Technical Change Order (TCO) specifies the Monitoring and Reporting Program for the subject landfill and supersedes the previous Monitoring and Reporting Program for Order 89-102 adopted on December 18, 1989.

GENERAL MONITORING REQUIREMENTS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this Order and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification and the approval of the Executive Officer.
2. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act" as amended, unless other test procedures have been specified in this Order.
3. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved the Executive Officer. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.
4. If the discharger monitors any pollutants more frequently than required by this Order, using test procedures approved under 40 CFR, Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
5. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and

records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

6. Monitoring results must be reported on discharge monitoring report forms approved by the Executive Officer.
7. Records of monitoring information shall include:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The individual(s) who performed the sampling or measurements;
  - c. The date(s) analyses were performed;
  - d. The individual(s) who performed the analyses;
  - e. The analytical techniques or method used; and
  - f. The results of such analyses.
8. The discharger shall report all instances of noncompliance as required under Reporting Requirement D.5 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting requirements D. 8.
9. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Executive Officer or in this Order.
10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.
11. All field and laboratory works shall be in accordance with the quality assurance and control plan submitted by the discharger on September 20, 1989.
12. A composite sample is defined as a combination of at least 8 sample aliquot of at least 100 milliliters, collected at periodic intervals during the operating hours of the landfill. For volatile pollutants, aliquot must be combined in the laboratory immediately before analysis.

13. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.
14. In the annual report, the discharger shall provide a statistical analysis of the results in accordance with Appendix II of 23 CCR 15 or equivalent statistical method. The discharger shall identify whether a significant difference was found above the cumulative background values for each parameter.
15. A letter of transmittal shall accompany each submitted monitoring report. The letter should discuss the essential points in each monitoring report. Such letter shall include a discussion of any significant findings and violation(s) of requirements found during the monitoring period and actions taken or planned for correcting the violation(s). If the discharger has previously submitted a detailed time schedule for correcting violation(s) a reference to the correspondence transmitting such schedule will suffice. If no violation(s) have occurred in the last monitoring period, it shall be stated in the transmittal letter. Monitoring reports and the transmittal letter shall be signed by a principal executive officer at the level of vice president or his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the discharger's knowledge the report is true, complete, and correct.

A. WASTE MONITORING PROGRAM

1. The discharger shall maintain all wastes discharged to the landfill in accordance with the approved load-checking program implemented to ensure hazardous materials are not discharged to the landfill. Annually, the discharger shall submit an assessment that documents the effectiveness of the periodic load-checking program and describes any new control measures being implemented to improve the program.
2. The discharger shall perform quarterly inspections of the Waste management units (WMU) at the landfill site and report the results quarterly. The report shall contain information of the WMU conditions and a discussion of any significant findings with regard to:

- a. General site condition;
- b. Surface cover and slope;
- c. Drainage facilities;
- d. Groundwater and vadose zone monitoring networks;
- e. Methane gas control system;
- f. Observation of seepage from the WMUs;
- g. Liquid condensate disposal facilities; and
- h. Maintenance activities at the site.

3. Annually, the discharger shall submit a report describing the quantity of nonhazardous solid wastes, dewatered sewage sludge or water treatment sludge, shredder wastes, nonhazardous incinerator wastes, and inert wastes discharged at each WMU.

B. SURFACE WATER RUNOFF MONITORING PROGRAM

1. Each year, a grab sample of the first surface water runoff accumulated in the desilting/debris basin shall be analyzed and reported annually for the following constituents:

Constituent	Units
pH	pH Units
Turbidity	NTU
Specific Conductance	umhos/cm
Total Dissolved Solids	mg/L
Total Nitrogen	mg/L
Total Phosphorous	mg/L
Chemical Oxygen Demand	mg/L

Note: mg/L = milligrams per liter

C. GROUNDWATER AND VADOSE ZONE MONITORING PROGRAM

1. Soil moisture content shall be measured and reported quarterly for the compliance points Number B-1 to B-6 as shown in Attachment #1.
2. The discharger shall establish and maintain groundwater wells and vadose zone monitoring devices at the landfill site to be used as part of a background water quality monitoring program.
3. New monitoring wells shall be designed and certified as adequate by a California registered geologist or a registered

civil engineer, pursuant to Subchapter 15, Sections 2555 and 2559.

4. All monitoring wells shall be constructed by a licenced water well contractor in a manner that maintains the integrity of the drill hole and prevents cross-contamination of saturated zones. The casing shall be a minimum of two inches in diameter. The annular space shall be packed with appropriate filter material that is sized to match the formation. The annular space above the screened depth shall be appropriately sealed to prevent contamination of samples and groundwater from surface pollution. The well shall be adequately developed to prevent the movement of sediment into the casing and to produce the highest yield possible from the formation. Each well shall be marked permanently so as to readily identify it and shall have a reference point tied into mean sea level elevation by a licensed surveyor. All monitoring wells shall be logged during drilling under the direct supervision of a California registered geologist. All monitoring well logs submitted to the Board shall be signed by the registered geologist. All monitoring well logs shall be filed with the Department of Water Resources (DWR) on forms provided by DWR, pursuant to Water Code Section 13751. Soil shall be described according to the Unified Soil Classification System. Copies of the logs and as-built specifications of the wells shall be submitted to the Regional Board.
5. Prior to pumping monitoring wells for sampling, the static water level shall be measured in each well.
6. Prior to sampling monitoring wells, the presence of a floating immiscible layer in all wells shall be determined at the beginning of each sampling event. This shall be done prior to any other activity which may disturb the surface of the water in a well, e.g. water level measurements. If an immiscible layer is found, the Regional Board shall be notified within 24 hours.
7. Prior to sampling monitoring wells, the water standing in the casing shall be pumped using a step-down purging method until the water chemistry has stabilized with respect to pH and specific conductance. Water chemistry can be considered stable when in-line specific conductance and pH readings are within  $\pm 10\%$  and  $\pm 0.1$  pH units respectively over 2 successive well volumes. Samples shall be obtained that are representative of the fresh aquifer formation water.

8. Field logs used for monitoring well sampling shall be included in the monitoring reports. The information contained in these logs shall include: the name of the person actually taking the sample, well number, date, time of sampling, method of sampling (if a pump is used, include, the type of pump used and pump placement), sampling procedure, number of field blanks, presence of travel blanks, well number where duplicate samples are taken, type of sample containers and preservatives, any observations of the quality of the sample water (color, odors, immiscible phases, etc.), chain of custody record, and any problems encountered during sampling.
9. Field logs used during well purging shall be included in the monitoring reports. The information contained in these logs shall include: the method of monitoring the field parameters, calibration of the field equipment, method of purging (if a pump is used, include pump placement and pumping rate), date each well was purged, well recovery time, method of disposal of the purged water, an estimate of volume of water purged from each well, the results of all field analyses, well number, date, depth to groundwater, method of measuring the water level, and field personnel signatures.
10. After purging, if 80% recovery of the initial water level exceeds three hours, a sample should be collected as soon as the water level is sufficient to recover a representative sample.
11. The discharger shall submit a compliance evaluation summary of the groundwater and vadose zone chemical data obtained for the quarter. The summary shall contain a table which includes the following information:
  - a. Monitoring parameters;
  - b. Detection limit of monitoring equipment;
  - c. Average concentration for each parameter over the previous four quarterly monitoring events;
  - e. Measured concentrations found in the current sampling event; and
  - f. Whether a significant difference was found for each parameter.

The measured concentrations shall be reported with a "<" symbol only if the value listed after the symbol is the detection limit achieved by the laboratory.

12. The discharger shall provide a graphical description of the direction of groundwater flow in and around the disposal site,

based upon water level elevations and pertinent visual observations. The time of day at which each well's water level is determined shall be included with the graphical description of the direction of groundwater flow.

- X 13. *Annual* The discharger shall provide a summary of the results of the background water quality monitoring program at the end of one year of monitoring. The analysis shall account for measurement errors in sampling and analysis, and account for seasonal fluctuations in background water quality.
14. For each parameter specified the discharger shall calculate the arithmetic mean and variance of the samples obtained during each year of the background monitoring program.
15. The discharger shall submit a proposal for a detection monitoring program by March 30, 1990. The detection monitoring program shall be based on the results of the background water quality monitoring program and in accordance with monitoring requirements of Subchapter 15, Article 5.
16. The discharger shall continue the background water quality monitoring program until the detection monitoring program is approved by the Executive Officer and implemented at the landfill site.
17. Water samples from the compliance points (as shown in Attachment #2, wells D, E, F, G, and H, and the Spring) shall be collected, analyzed, and reported as shown in Table #1.

Spring .....	8S/7W - 10ES01S
Well D .....	8S/7W - 17A01S
Well E .....	8S/7W - 17A02S
Well F .....	8S/7W - 09J01S
Well G .....	8S/7W - 10E01S
Well H .....	8S/7W - 09N01S

Table #1

Constituent	Units	Sampling Frequency	Reporting Frequency
pH	Unit	Quarterly	Quarterly
Turbidity	NTU	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Quarterly	Quarterly
Chloride	mg/L	Quarterly	Quarterly
Nitrate as NO <sub>3</sub>	mg/L	Quarterly	Quarterly
Sulfate	mg/L	Quarterly	Quarterly
Semi-volatile Organics	ug/L	Annually	Annually
Volatile Organics <i>EPA 625</i> <i>601/602</i>	ug/L	Annually	Annually
Arsenic	mg/L	Quarterly	Quarterly
Barium	mg/L	Quarterly	Quarterly
Cadmium	mg/L	Quarterly	Quarterly
Chromium	mg/L	Quarterly	Quarterly
Copper	mg/L	Quarterly	Quarterly
Iron	mg/L	Quarterly	Quarterly
Lead	mg/L	Quarterly	Quarterly
Mercury	mg/L	Quarterly	Quarterly

Note: mg/L = milligrams/liter and ug/L = micrograms/liter

#### D. WATER QUALITY PROTECTION STANDARDS

The following water quality protection standards (WQPS) are intended to reflect water quality unaffected by the subject landfill and will be used to determine whether water quality degradation has occurred at the site. The following WQPS are established for ground water beneath the site:

Parameter	Protection Standards	Units
Semi-volatile organics	MDL	N/A
Volatile organics	MDL	N/A
Arsenic	0.05	mg/L
Barium	1.00	mg/L
Cadmium	0.01	mg/L
Chromium	0.05	mg/L
Copper	1.00	mg/L
Iron	0.30	mg/L
Lead	0.05	mg/L
Mercury	0.002	mg/L
Silver	0.05	mg/L

**Note:** mg/L = milligram per liter,

MDL = Method Detection Limit is defined as the minimum concentration of a substance that can be identified, measured, and reported with 99% confidence that the analyte concentration is greater than zero.

E. REPORTING SCHEDULE:

The monitoring reports shall be submitted to the Executive Officer in accordance with the following schedule:

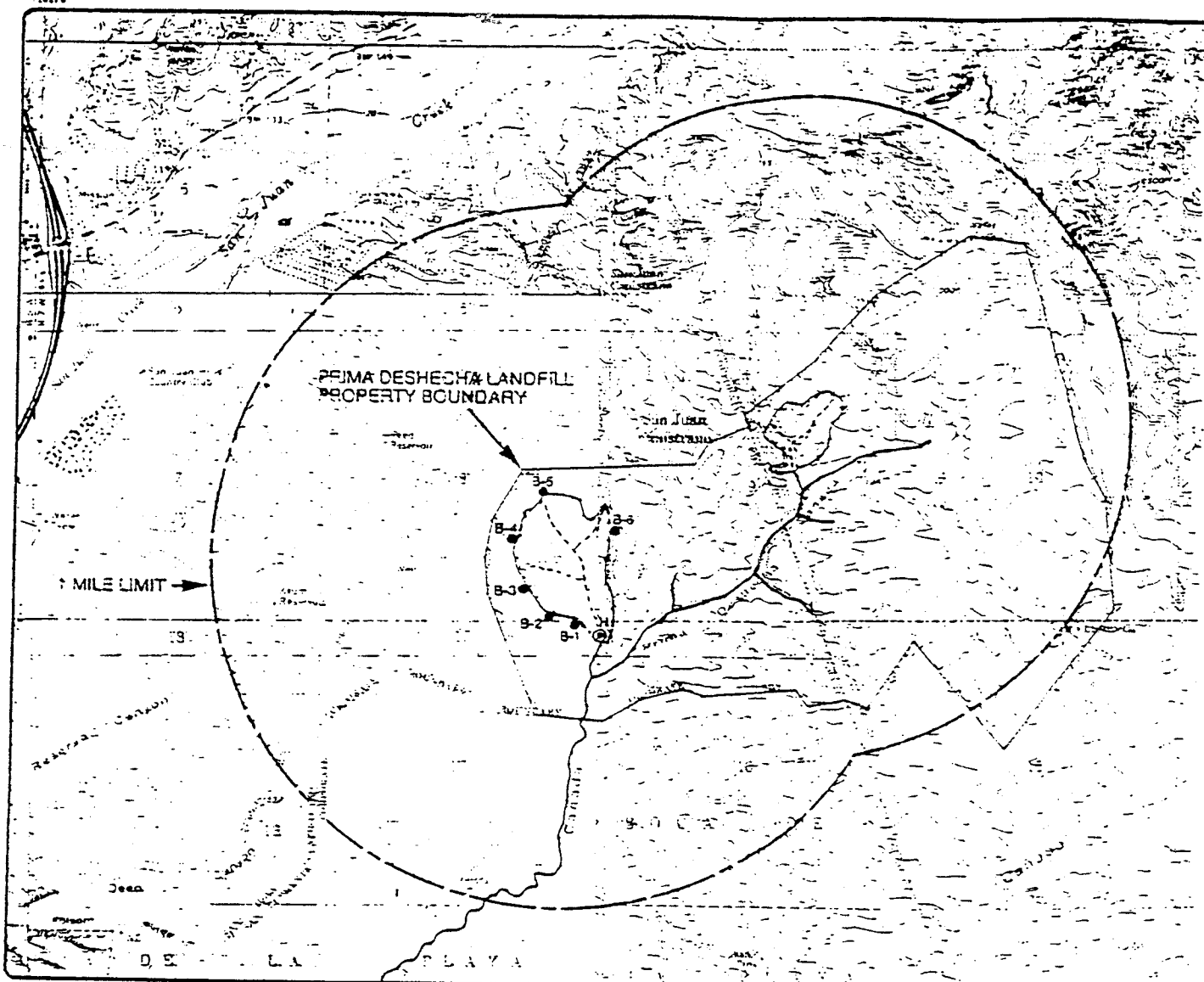
<u>Reporting Frequency</u>	<u>Monitoring Period</u>	<u>Report Due Date</u>
Quarterly	January - March	April 30
	April - June	July 30
	July - September	October 30
	October - December	January 30

Ordered by

*Ladin H. Delaney*  
Ladin H. Delaney  
Executive Officer

Date: March 19, 1990

Attachments 1 & 2: Vadose zone and ground water compliance points location maps.



**EMCON**  
Associates

SCALE 1:24000

0 1/2 1 MILE

Base map from USGS Topographic Maps, 7.5 minute quadrangle  
Contour interval: 50 feet



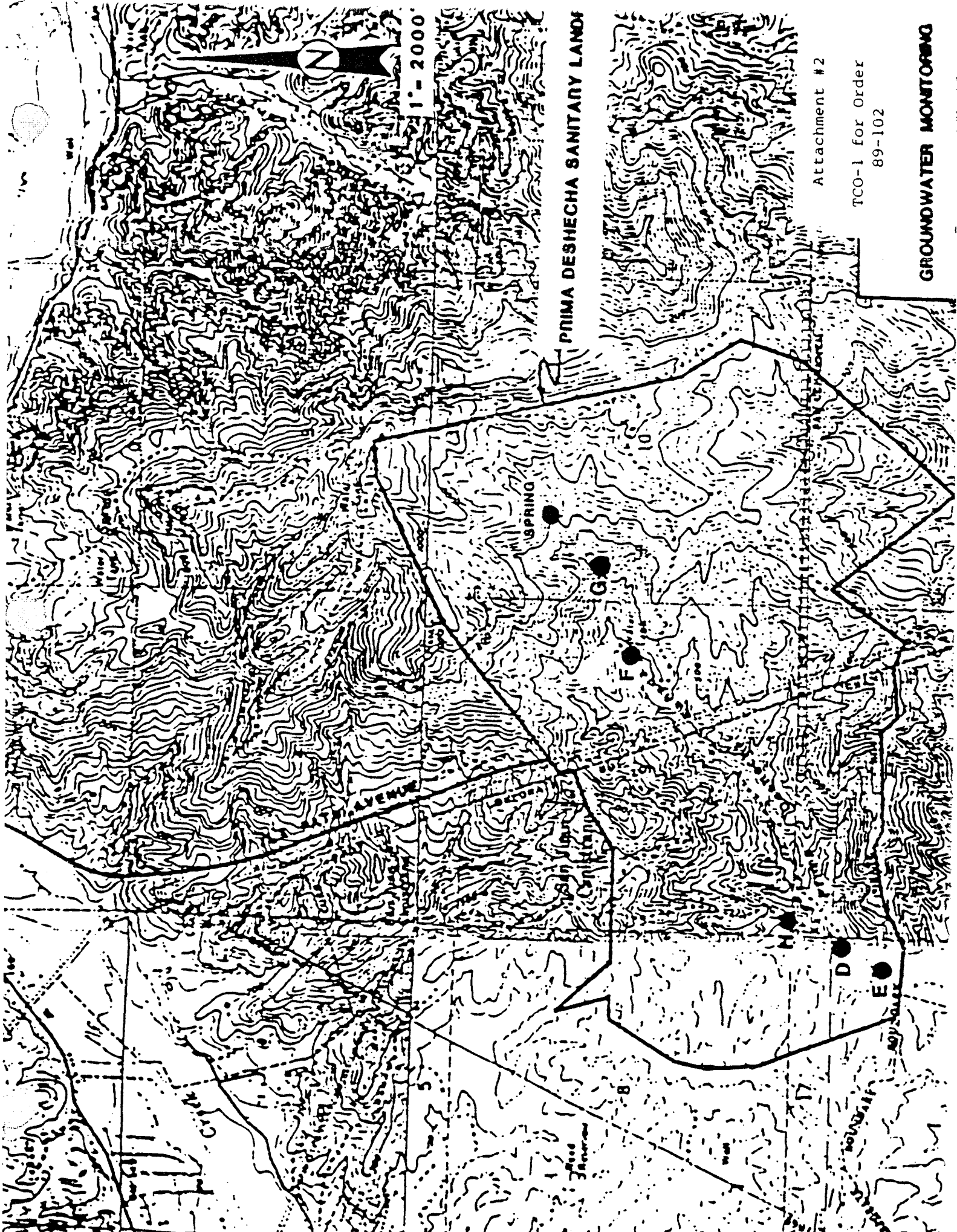
Attachment #1

TCO-1 for Order 89-102

Vadose Zone Monitoring Location Map  
Prima Deshecha Sanitary Landfill

● B-3

Monitoring Location



PRIMA DESHECHA SANITARY LANDS

1" = 2000'

N

Attachment #2

TCO-1 for Order  
89-102

GROUNDWATER MONITORING

MILL SPRING

G

F

D

E

ROAD

CITY

ADJ. VALLEY

PRIMA DESHECHA

